

Split

*

Work Order ID 79920-2

79920

February-08-12 9:23:14 AM

Page 1

Item ID: D4456-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Fwd Raingutter, LH

Stop *NS2*

Start Date: 17/02/2012 Start Qty: 20.00

20

Cust Item ID:

Required Date: 17/02/2012 Req'd Qty: 20.00

20

Customer:

Reference:

Approvals: Process Plan: M.C.J.

Date: 12/02/08

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D4456

A

100

0.00

100

FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg

Dwg Rev: A

Prog Rev: A

2-Deburr if necessary

606 - 033

W 12-02-12 (20)
B 12-2-29
11

110

0.00

110

QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

W 12-02-12 (20)
B 12-2-29 (20)

120

0.00

120

QC8- Inspect parts - second check

QC

Memo

0.00

Quality Control

S 12/02/13
S 12/02/29

counters
x20
counters
x25
Pto →

Work Order ID 79920

February-08-12 9:23:14 AM

79920

Page 2

Item ID: D4456-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Fwd Raingutter, LH

Stop *NS2*

Start Date: 17/02/2012 Start Qty: 20.00

20

Cust Item ID:

Required Date: 17/02/2012 Req'd Qty: 20.00

20

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

130

Small Fab

NC BRAKE

0.00

Memo

0.00

Small Fab

1- Form as per dwg using DT9788
2- After forming cut off tabs as per dwg

(10) 12-03-14

140

140

QC

QC5- Inspect part completeness to step on W/O

0.00 - inspect to Rev A

Memo

0.00

5/2/13/15

(410)

Quality Control

144

144

Outsource1

Outsource process - Heat Treat

0.00

Memo

0.00

metcon

CY 12/03/22 10

Outsource process - Heat Treat

P/O: 16523

Work Order ID 79920

February-08-12 9:23:14 AM

79920

Page 3

Item ID: D4456-1 Accept ***N9000040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Fwd Raingutter, LH
 Start Date: 17/02/2012 Start Qty: 20.00 ***20*** Cust Item ID:
 Required Date: 17/02/2012 Req'd Qty: 20.00 ***20*** Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

146 Receive & Inspect for Damage & Mat'l Certs 0.00

146

Packaging

Memo

0.00

Packaging

QC6 → 8/26/30

(40)

150 Chemical Conversion Coat per QSI005 4.1 0.00

150

HandFinish

Memo

0.00

Hand Finishing

10 d Jd 12/04/02.

160 QC3- Inspect Part Finish 0.00

160

QC

Memo

0.00

Quality Control

10 Jd 12-4-2

Work Order ID 79920

February-08-12 9:23:14 AM

79920

Page 4

Item ID: D4456-1
Revision ID:
Item Name: Fwd Raingutter, LH

Accept

N900040100

Setup Start ***NS1***
Stop ***NS2***

Start Date: 17/02/2012 Start Qty: 20.00
Required Date: 17/02/2012 Req'd Qty: 20.00

20
20

Cust Item ID:
Customer:

Reference:

Approvals: Process Plan:
QC:

Date: Tooling: Date:
Date: SPC (Y/N): Date:

Run Start ***NR1***
Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan Accept Reject Reject Insp.
Code Qty Qty Number Stamp

170

Identify as per dwg & Stock Location: _____

0.00

170

Packaging

Memo

0.00

Packaging

2/4/12 SD 100

180

QC21- Final Inspection - Work Order Release

0.00

180

QC

Memo

0.00

Quality Control

MC 12/04/02

MC 12/04/02
CW

Picklist Print

February-08-12 9:23:19 AM

Page 1

Work Order ID: 79920

79920

Parent Item: D4456-1

D4456-1

Parent Item Name: Fwd Raingutter, LH

Start Date: 17/02/2012

Required Date: 17/02/2012

Start Qty: 20.00

Required Qty: 20.00

Comments:

IPP REV:A 11.11.21 NEW ISSUE DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M60610S.032		Purchased	No			100	sf	41.0000	0.125	2.631579			

M60610S 032

60610 SHEET .032

**

W 12 02 12

Location

Loc Qty

Loc Code

MAT021

41

119686

41

B# 120225

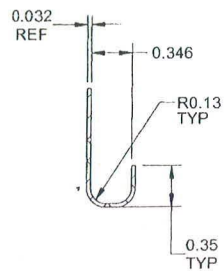
6061, T.O.

~~120777~~

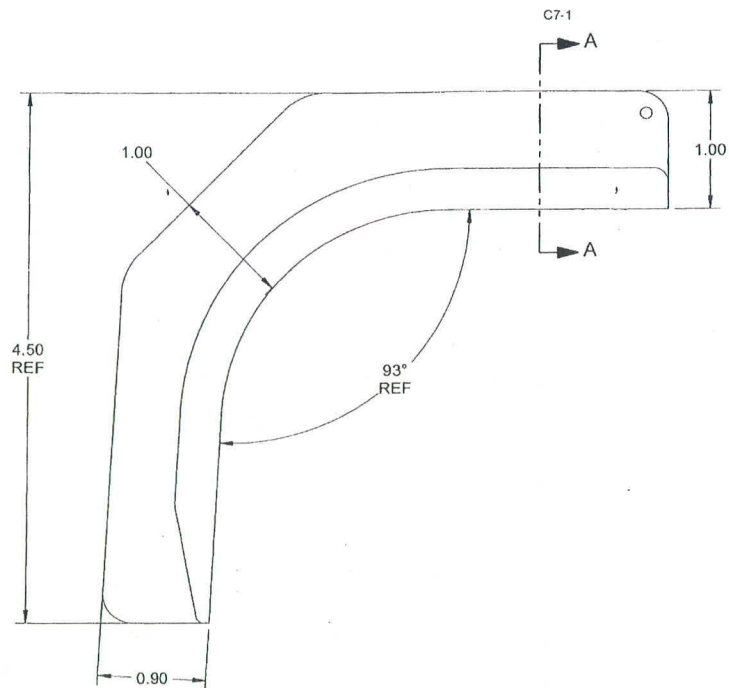
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1812-2-29

25



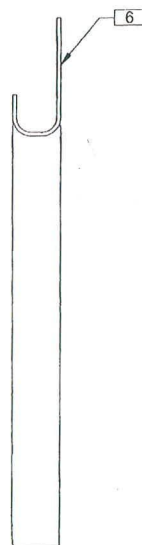
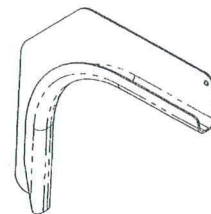
SECTION A-A D4-1



D4456-1 FWD RAINGUTTER, LH

NOTES:

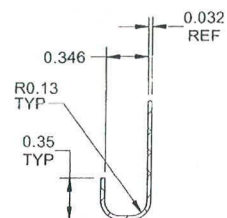
- 1) MATERIAL: MAKE FROM D4456-1F FLAT PATTERN
HEAT TREAT TO 6061-T6 CONDITION AFTER FORMING
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.04 lbs
- 8) TRIM TABS ON THE HIDDEN LINES AFTER FORMING



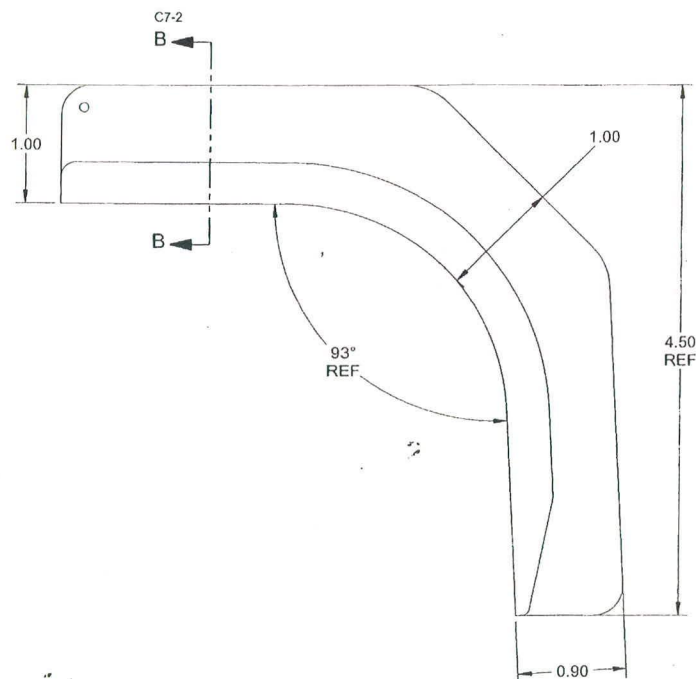
79920
11/20/17
RELEASED
2012-01-17

A		NEW ISSUE		RF	11.11.17
REV.		DESCRIPTION		BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC. KENT, WA			
DRAWN	RF				
CHECKED	RF	DRAWING NO.	D4456	REV. A	
MFG. APPR.	RF	SHEET 1 OF 8			
APPROVED	RF	TITLE		SCALE	
DE APPR.	RF	RAINGUTTER		NTS	
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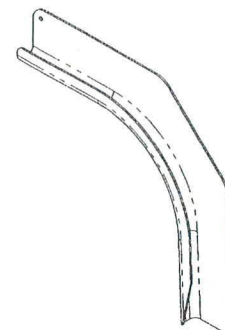
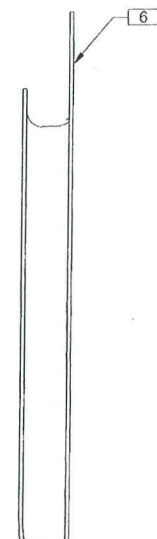
8 7 6 5 4 3 2 1



SECTION B-B D6-2



D4456-2 FWD RAINGUTTER, RH



79920

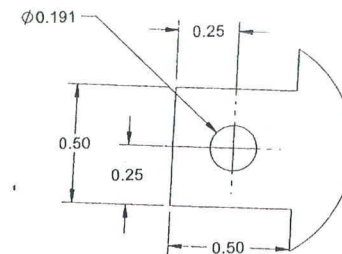
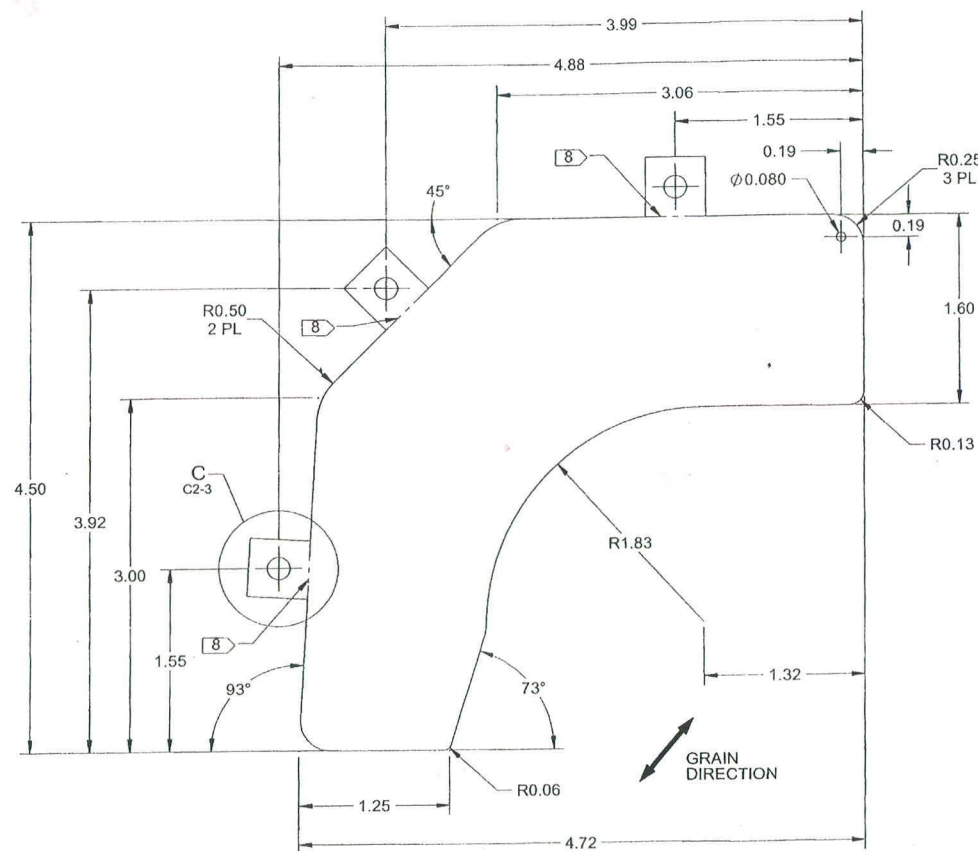
RELEASED
2012-01-17

NOTES:

- 1) MATERIAL: MAKE FROM D4456-1F FLAT PATTERN
HEAT TREAT TO 6061-T6 CONDITION AFTER FORMING
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.03 lbs
- 8) TRIM TABS ON THE HIDDEN LINES AFTER FORMING

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CHECKED	<i>[Signature]</i>	DRAWING NO. D4456	REV. A
MFG. APPR.	<i>[Signature]</i>	SHEET 2 OF 8	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	FWD RAINGUTTER, RH	1:1
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8 7 6 5 4 3 2 1



DETAIL C C7-3
TYP C6-3
D5-3

19920

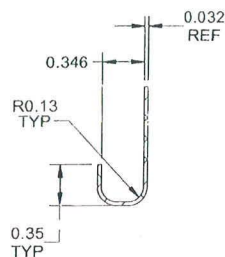
0.032
REF

D4456-1F FWD RAINGUTTER FLAT PATTERN

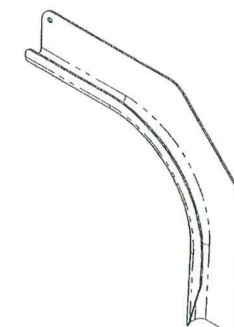
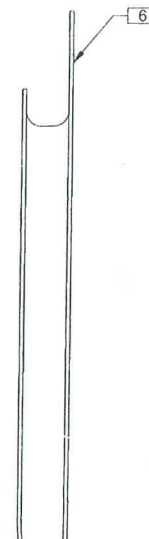
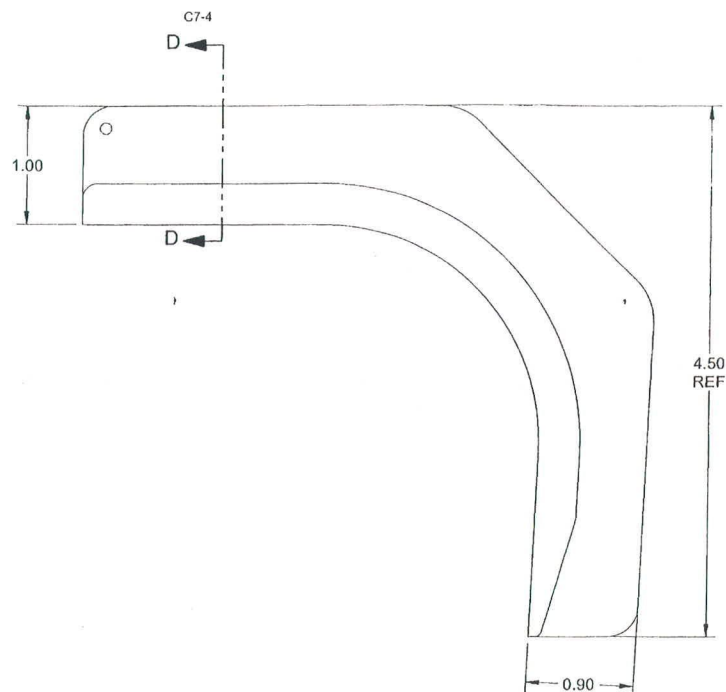
NOTES:

- 1) MATERIAL: 6061-O ALUMINUM SHEET 0.032 THICK
PER AMS QQ-A-250/11 OR AMS 4025
REF DART SPEC M6061-QS.032
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.04 lbs

DESIGN	RF	DART AEROSPACE USA, INC.	
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MFG. APPR.	RF	D4456	SHEET 3 OF 8
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SECTION D-D C6-4



D4456-3 AFT RAINGUTTER, LH

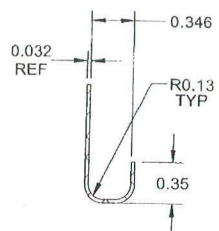
79920

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2012-01-17

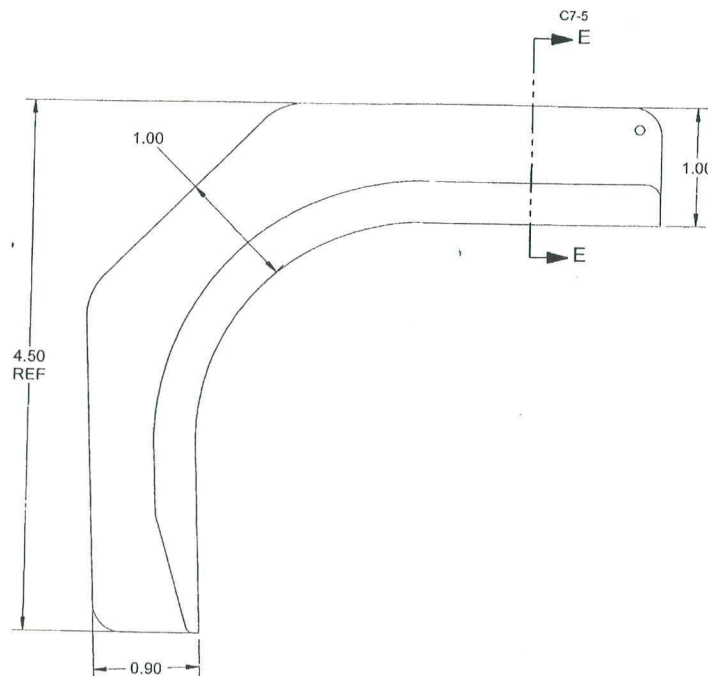
NOTES:

- 1) MATERIAL: MAKE FROM D4456-3F FLAT PATTERN
HEAT TREAT TO 6061-T6 CONDITION AFTER FORMING
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.04 lbs
- 8) TRIM TABS ON THE HIDDEN LINES AFTER FORMING

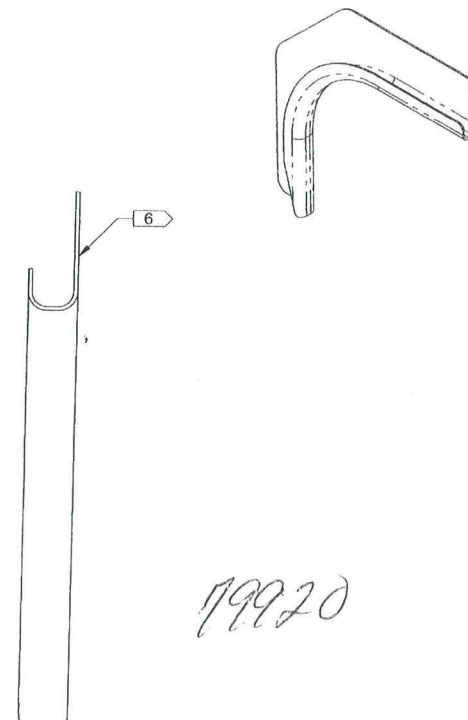
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DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO. D4456	REV. A
MFG. APPR.	<i>[Signature]</i>	SHEET 4 OF 8	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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SECTION E-E D4-5



D4456-4 AFT RAINGUTTER, RH



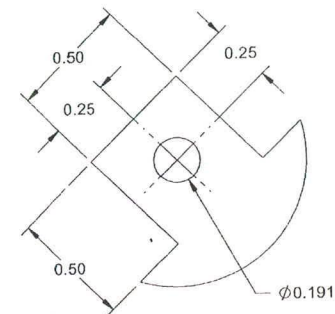
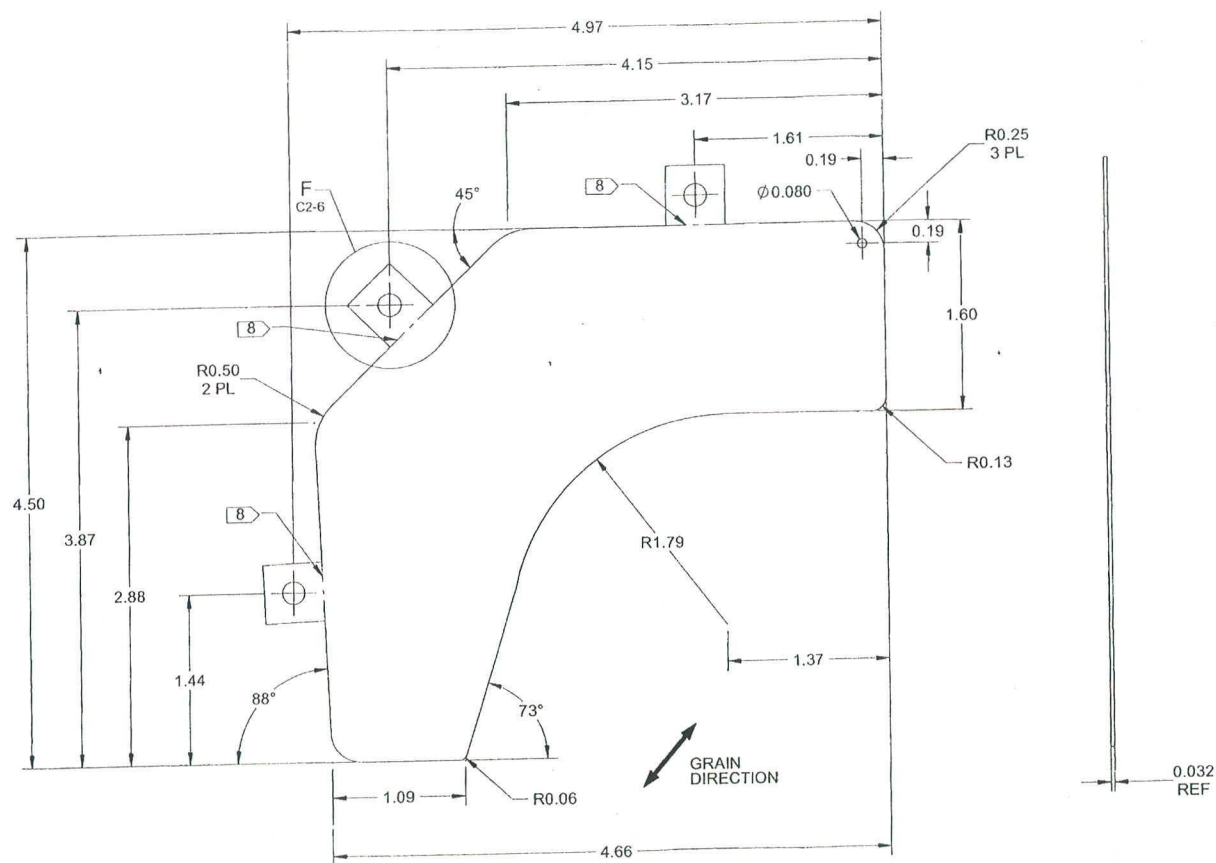
19920

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11 2012-01-17

NOTES:

- 1) MATERIAL: MAKE FROM D4456-3F FLAT PATTERN
HEAT TREAT TO 8061-T6 CONDITION AFTER FORMING
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.04 lbs
- 8) TRIM TABS ON THE HIDDEN LINES AFTER FORMING

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DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4456	SHEET 5 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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DETAIL F
TYP
B7-6
C6-6
D5-6

79920

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2012-01-17
JW

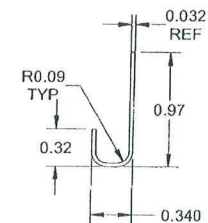
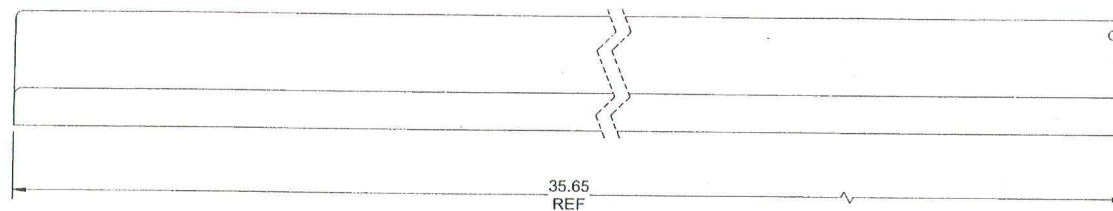
D4456-3F AFT RAINGUTTER FLAT PATTERN

NOTES:

- 1) MATERIAL: 6061-O ALUMINUM SHEET 0.032 THICK
PER AMS QQ-A-250/11 OR AMS 4025
REF DART SPEC M6061-OS.032
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.04 lbs

DESIGN			RF	DART AEROSPACE USA, INC.	
DRAWN			RF	KENT, WA	
CHECKED				DRAWING NO.	REV. A
MFG. APPR.				D4456	SHEET 6 OF 8
APPROVED				TITLE	SCALE
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79920

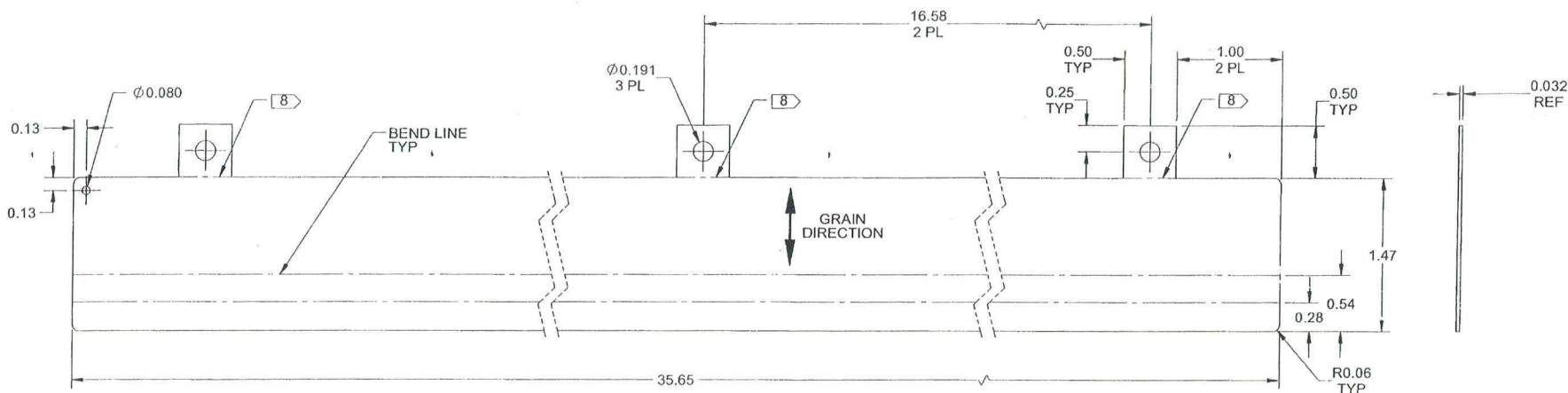
D4456-5 CENTER RAINGUTTER

RELEASED
11 2012-01-17
JUN

NOTES:

- 1) MATERIAL: MAKE FROM D4456-5F FLAT PATTERN
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.17 lbs
- 8) TRIM TABS ON THE HIDDEN LINES AFTER FORMING

DESIGN	RF	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4456	SHEET 7 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	RAINGUTTER	NTS
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D4456-5F CENTER RAINGUTTER FLAT PATTERN

NOTES:

- 1) MATERIAL: 6061-T6/T62 ALUMINUM SHEET 0.032 THICK
PER QQ-A-250/11 OR AMS-QQ-A-250/11
OR AMS 4025 OR AMS 4027 OR ASTM B209
REF DART SPEC M8061T6S.032
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.17 lbs

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	RF	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4456	SHEET 8 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	RAINGUTTER	NTS
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Work Order: 7997C

Part Number: D4456-1

Page 1 of 1

X	First Article	X	Prototype
---	---------------	---	-----------

Measured by: <u>RB</u>	Audited by: <u>S</u>	Prototype Approval:
Date: <u>12-2-29</u>	Date: <u>12/2/29</u>	Date:

FORMS Quality Assurance approved 04/14/11 rev D

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Recu de Livraison

Order	Shipper	Shipping Seq.
174695	1	59687

Shipped Complete

Customer **215**
DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

Shipped To:
DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

Purchase Order Number	Customer Shipper No.	Material Type	Order Date	Carrier
PO16523		AL-6061	2012/3/23	FEDEX
Quantity	Part No. / Part Name / Part Description			Pounds

60 D4456-1
(10) RAINGUTTER

(10) D4456-2 FWD
RAINGUTTER

(10) D4456-3 AFT
RAINGUTTER

(10) D4456-4 FWD
RAINGUTTER

(20) D4456-5 CENTER
RAINGUTTER

CONTENANT: 1 BOÎTE DE CARTON

Container Type	# Of Containers	Container Comments
BOITE DE CARTON	1	

PACKING	
----------------	--

Quantity Shipped: 60
Pounds Shipped: 5,00
Quantity Remaining: 0
Pounds Remaining: 0,00

Quantity Shipped: 60

Pounds Shipped: 5,00

Signature: _____

Date: _____

Shipped ON: 2012/03/28



Metcor Inc.
560, boul. Arthur-Sauvé
St-Eustache (Québec) J7R 5A8
Tél. : 450 473-1884
Télécopieur/Fax administration : 450 491-5493
Télécopieur/Fax production : 450 491-8454

Certificat de Conformité Certificate of Conformance	
BON DE TRAVAIL ORDER	CHARGEMENT LOAD
174625	1

CLIENT / customer : DART AEROSPACE
1270 ABERDEEN
HAWKESBURY ON K8A 1K7

LIVRÉ À / shipped to : DART AEROSPACE
1270 ABERDEEN
HAWKESBURY ON K8A 1K7

COMMANDE DU CLIENT customer order	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	CODE DE TRAITEMENT metal heat code	NUMÉRO DE LOT lot number
P018523		AL-8081		

SPÉCIFICATIONS DU PROCÉDÉ processing specifications

100% ANNEAL

SINGLE - SHIP TO CONDITION T8

50/103/30

EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
CONDUCTIVITÉ	40 - 50 %IACS	80	47 - 48 %IACS
HARDNESS	85 HREW MIN	80	91 - 93.5 HREW
DURETÉE MESURÉE EN: HR15TW = 79.2-83.3 HR15TW			

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
80	8	D4458-1 (10) RAINGUTTER (10) D4458-2 FWD RAINGUTTER (10) D4458-3 AFT RAINGUTTER (10) D4458-4 FWD RAINGUTTER (20) D4458-5 CENTER RAINGUTTER CONTENANT: 1 BOÎTE DE CARTON

COMMENTAIRES / comments

Smith (METCOR)

